

Engine Torque Control for a Hybrid Electric Vehicle Using Estimated Engine Torque

Abstract of Disclosure

A system and method for accurate control of engine torque for a parallel/series hybrid electric vehicle (PSHEV) is disclosed. An accurate estimate of engine torque is determined from the generator motor torque of a PSHEV. The estimated engine torque can then be used to control engine torque in a closed loop torque control strategy. The invention comprises at least one controller to receive, process and output torque signals; a first control strategy to determine a modified engine torque signal from at least a desired engine torque signal; and a second control strategy to determine variables for air, fuel and spark from said modified engine torque signal. The first control strategy can include a proportional integral (PI) controller. The estimated engine torque signal can be a function of an estimated generator motor torque signal, a generator motor speed signal and an engine torque loss signal.

Figures